

### Abstract of the Disclosure

Process and formulation are described allowing fabrication of absorbance and  
5 fluorescence standards in cuvettes and micro-well plate, and other desirable containers, with  
particular application to drug discovery and high throughput screening of bioactive systems.  
The material medium is capable of incorporating a large number of dyes, individually or in  
combination, and can closely mimic real aqueous assays in optical properties such as the dye  
spectra, transparency, refractive index, and shapes of meniscus. The medium is compatible  
10 with addition of formulation components for control of foaming, vapor pressure, freezing  
point, dye bleaching, and molecular rotational correlation times. The process starts with the  
dispensing of a fluid dye-containing liquid into the vessel of choice, and its subsequent  
viscosification by chemical or physical means into a viscous gel. After further processing  
for stability, the container can be sealed with appropriate means. The standards are useful  
15 for calibration of spectrophotometric or fluorometric plate readers and imagers for correction  
of systematic spatial errors, for calibration of absolute intensities, and their replicates may  
be used to allow cross comparison of different instruments. Specialized standards can be  
used to check instrument performance in specialized assays relying on fluorescence  
resonance energy transfer (FRET), time-resolved fluorescence (TRF) and fluorescence  
20 polarization (FP).